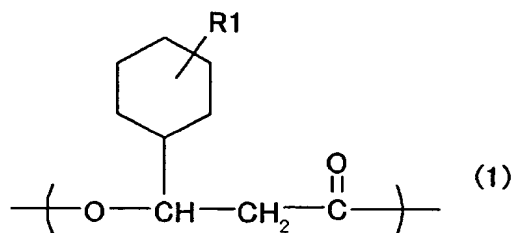


WHAT IS CLAIMED IS:

1. A polyhydroxyalkanoate comprising in a polymer molecule thereof a monomer unit represented by the following general formula (1):

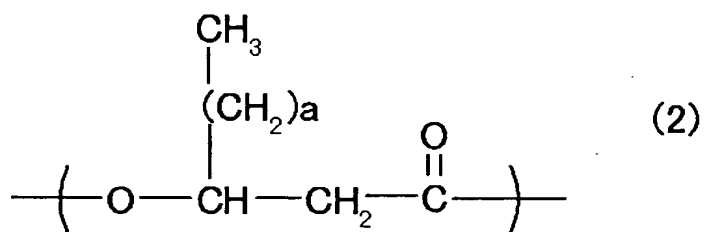


(wherein R1 represents a substituent to a cyclohexyl group, where R1 is one selected from the group consisting of a H atom, a CN group, a NO₂ group, a halogen atom, a CH₃ group, a C₂H₅ group, a C₃H₇ group, a CF₃ group, a C₂F₅ group, and a C₃F₇ group; and if there are two or more monomer units, R1 may be different from every monomer unit).

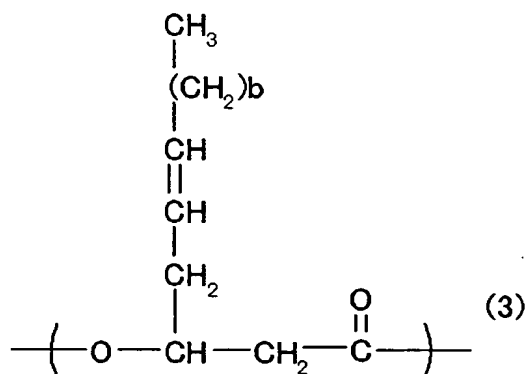
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2. The polyhydroxyalkanoate according to claim 1, further comprising at least one selected from the group consisting of monomer units represented by the following general formulae (2) to (15) in addition to the monomer unit represented by the general formula (1):

15

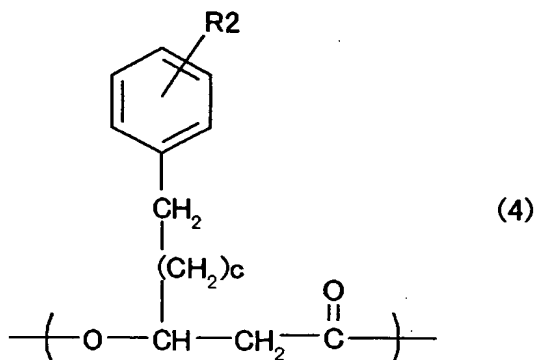


(wherein a represents an integral number of 0 to 9, and if there are two or more monomer units, a may be different from every monomer unit)



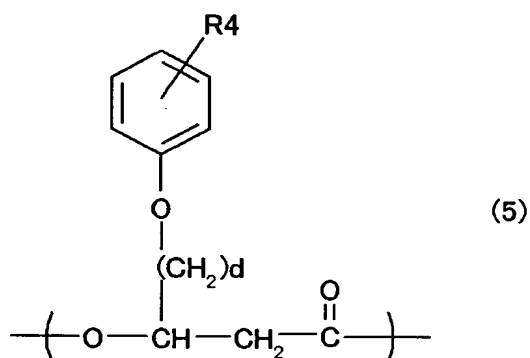
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(wherein b represents either 3 or 5, and if there are two or more monomer units, b may be different from every monomer unit)

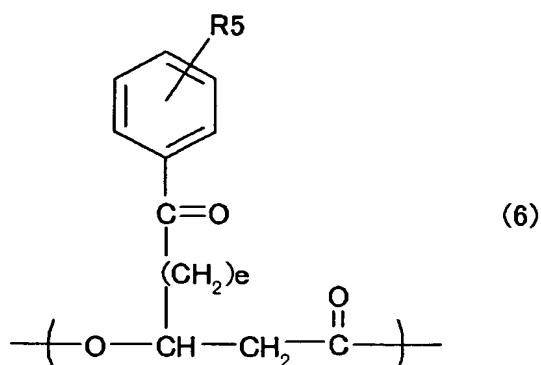


10 (wherein c represents an integral number of 0 to 7; and R₂ represents a substituent to an aromatic ring,

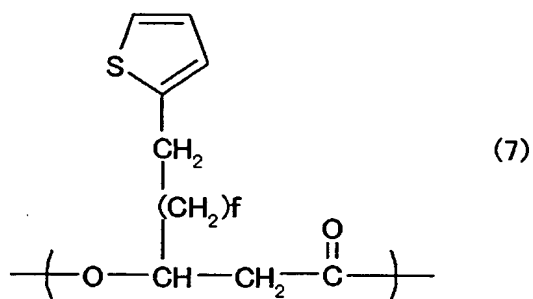
where R2 is one selected from the group consisting of a H atom, a halogen atom, a CN group, a NO₂ group, a CH₃ group, a C₂H₅ group, a C₃H₇ group, a CH=CH₂ group, COOR3 (wherein R3 represents one of a H atom, a Na atom, and a K atom), a CF₃ group, a C₂F₅ group, and a C₃F₇ group; and if there are two or more monomer units, each of c and R2 may be different from every monomer unit)



(wherein d represents an integral number of 1 to 8; and R4 represents a substituent to an aromatic ring, where R4 is one selected from the group consisting of a H atom, a halogen atom, a CN group, a NO₂ group, a CH₃ group, a C₂H₅ group, a C₃H₇ group, a SCH₃ group, a CF₃ group, a C₂F₅ group, and a C₃F₇ group; and if there are two or more monomer units, each of d and R4 may be different from every monomer unit)

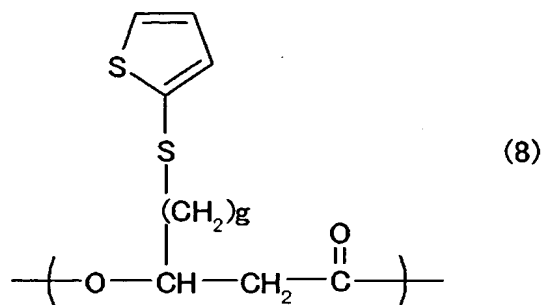


(wherein e represents an integral number of 1 to 8;
and R5 represents a substituent to an aromatic ring,
where R5 is one selected from the group consisting of
5 a H atom, a halogen atom, a CN group, a NO₂ group, a
CH₃ group, a C₂H₅ group, a C₃H₇ group, a CF₃ group, a
C₂F₅ group, and a C₃F₇ group; and if there are two or
more monomer units, each of e and R5 may be different
from every monomer unit)

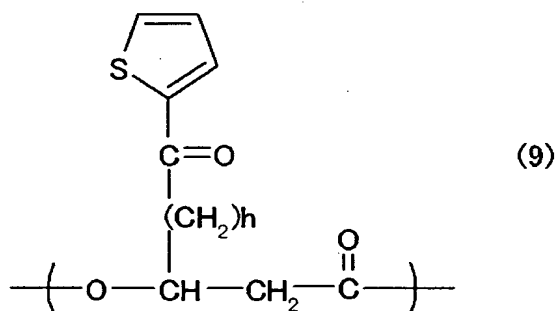


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(wherein f represents an integral number of 0 to 7,
and if there are two or more monomer units, f may be
different from every monomer unit)

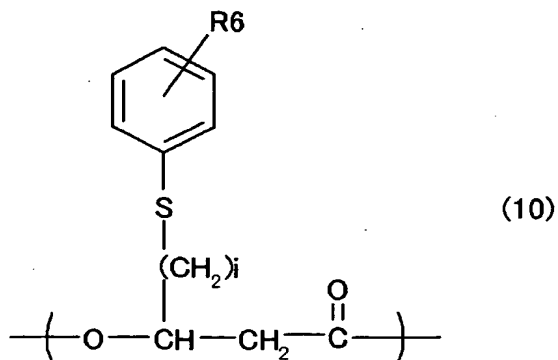


(wherein g represents an integral number of 1 to 8,
and if there are two or more monomer units, g may be
different from every monomer unit)



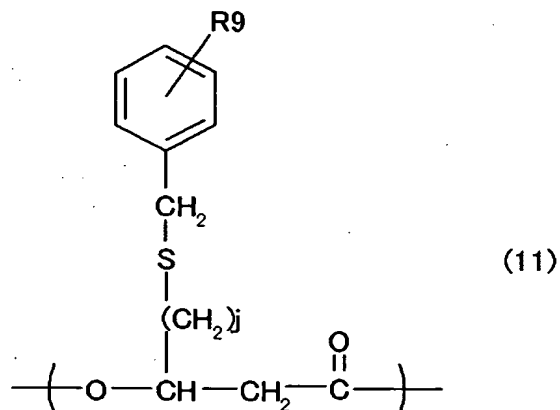
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(wherein h represents an integral number of 1 to 8,
and if there are two or more monomer units, h may be
different from every monomer unit)



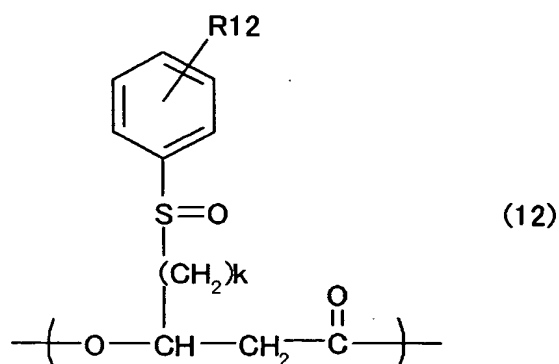
10 (wherein i represents an integral number of 1 to 8;
and R6 represents a substituent to an aromatic ring,

where R6 is one selected from the group consisting of
 a H atom, a halogen atom, a CN group, a NO₂ group,
 COOR7, SO₂R8 (wherein R7 represents one of a H atom,
 a Na atom, a K atom, a CH₃ group, and a C₂H₅ group;
 5 and R8 represents one of a OH group, a ONa group, a
 OK group, a halogen atom, a OCH₃ group, and a OC₂H₅
 group), a CH₃ group, a C₂H₅ group, a C₃H₇ group, a
 (CH₃)₂-CH group, and a (CH₃)₃-C group; and if there
 are two or more monomer units, each of i, R6, R7, and
 10 R8 may be different from every monomer unit)

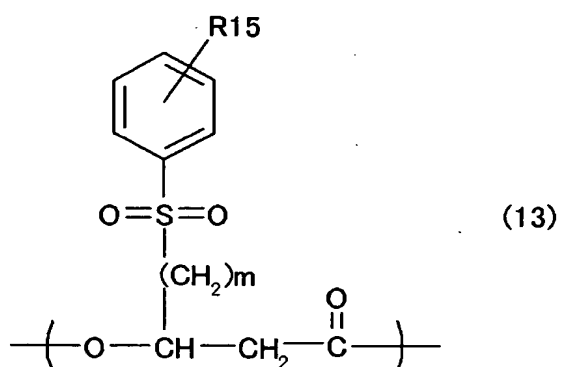


(wherein j represents an integral number of 1 to 8;
 and R9 represents a substituent to an aromatic ring,
 where R9 is one selected from the group consisting of
 15 a H atom, a halogen atom, a CN group, a NO₂ group,
 COOR10, SO₂R11 (wherein R10 represents one of a H
 atom, a Na atom, a K atom, a CH₃ group, and a C₂H₅
 group; and R11 represents one of a OH group, a ONa
 group, a OK group, a halogen atom, a OCH₃ group, and
 20 a OC₂H₅ group), a CH₃ group, C₂H₅ group, C₃H₇ group,

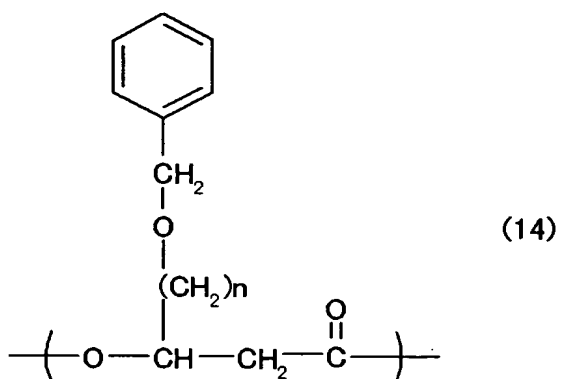
(CH₃)₂-CH group, and a (CH₃)₃-C group; and if there are two or more monomer units, each of j, R9, R10, and R11 may be different from every monomer unit)



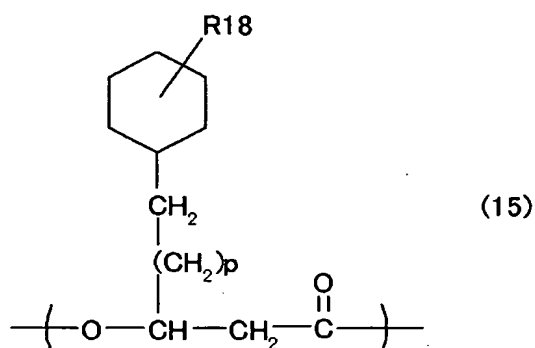
- 5 (wherein k represents an integral number of 1 to 8; and R12 represents a substituent to an aromatic ring, where R12 is one selected from the group consisting of a H atom, a halogen atom, a CN group, a NO₂ group, COOR13, SO₂R14 (wherein R13 represents one of a H
- 10 atom, a Na atom, a K atom, a CH₃ group, and a C₂H₅ group; and R14 represents one of a OH group, a ONa group, a OK group, a halogen atom, a OCH₃ group, and a OC₂H₅ group), a CH₃ group, C₂H₅ group, C₃H₇ group, (CH₃)₂-CH group, and a (CH₃)₃-C group; and if there
- 15 are two or more monomer units, each of k, R12, R13, and R14 may be different from every monomer unit)



(wherein m represents an integral number of 1 to 8;
 and R15 represents a substituent to an aromatic ring,
 where R15 is one selected from the group consisting
 5 of a H atom, a halogen atom, a CN group, a NO₂ group,
 COOR₁₆, SO₂R₁₇ (wherein R₁₆ represents one of a H
 atom, a Na atom, a K atom, a CH₃ group, and a C₂H₅
 group; and R₁₇ represents one of a OH group, a ONa
 group, a OK group, a halogen atom, a OCH₃ group, and
 10 a OC₂H₅ group), a CH₃ group, a C₂H₅ group, a C₃H₇ group,
 a (CH₃)₂-CH group, and a (CH₃)₃-C group; and if there
 are two or more monomer units, each of m, R₁₅, R₁₆,
 and R₁₇ may be different from every monomer unit)



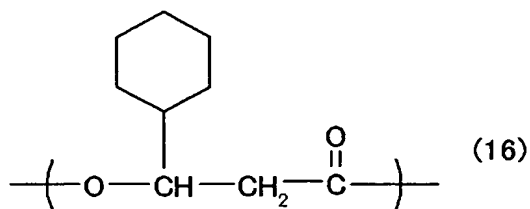
(wherein n represents an integral number of 1 to 8, and if there are two or more monomer units, n may be different from every monomer unit)



- 5 (wherein p represents an integral number of 0 to 7; and R18 represents a substituent to a cyclohexyl group, where R18 is one selected from the group consisting of a H atom, a CN group, a NO₂ group, a halogen atom, a CH₃ group, a C₂H₅ group, a C₃H₇ group, a CF₃ group, a C₂F₅ group, and a C₃F₇ group; and if
- 10 there are two or more monomer units, each of p and R18 may be different from every monomer unit).

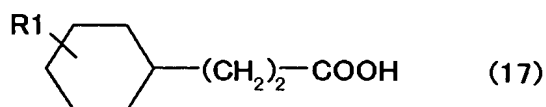
3. The polyhydroxyalkanoate according to claim

15 1, wherein the monomer unit represented by the general formula (1) is a monomer unit represented by the following general formula (16):



4. The polyhydroxyalkanoate according to claim 1, wherein the polymer molecule has a number average molecular weight of 2,000 or more and 300,000 or less.

5. A production process for the polyhydroxyalkanoate according to claim 1, comprising the step of culturing a microorganism in a medium containing an alkanolic acid represented by the following general formula (17):



(wherein R1 represents a substituent to a cyclohexyl group, where R1 is one selected from the group consisting of a H atom, a CN group, a NO₂ group, a halogen atom, a CH₃ group, a C₂H₅ group, a C₃H₇ group, a CF₃ group, a C₂F₅ group, and a C₃F₇ group, each of which is corresponding to R1 in the general formula (1); and if there are two or more monomer units, R1 may be different from every monomer unit).

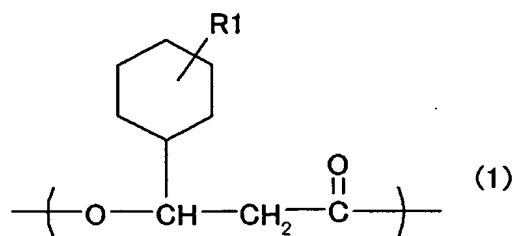
6. The production process according to claim 5, wherein the medium comprises at least one of a polypeptone, a yeast extract, and a saccharide.

5 7. The production process according to claim 6, wherein the saccharide is one or more compounds selected from the group consisting of glyceroaldehyde, erythrose, arabinose, xylose, glucose, galactose, mannose, fructose, glycerol, erythritol, xylitol,
10 gluconic acid, glucuronic acid, galacturonic acid, maltose, sucrose, and lactose.

8. The production process according to claim 5, wherein the microorganism is a microorganism
15 belonging to *Pseudomonas*.

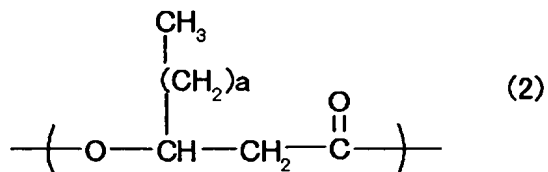
9. The production process according to claim 8, wherein the microorganism belonging to *Pseudomonas* is a microorganism selected from the group consisting
20 of: *Pseudomonas cichorii* strain YN2 (FERM BP-7375); *Pseudomonas cichorii* strain H45 (FERM BP-7374); and *Pseudomonas jessenii* strain P161 (FERM BP-7376).

10. In a binder resin composition that forms a
25 resin bulk material, the improvement which comprises a polyhydroxyalkanoate represented by the following general formula (1):

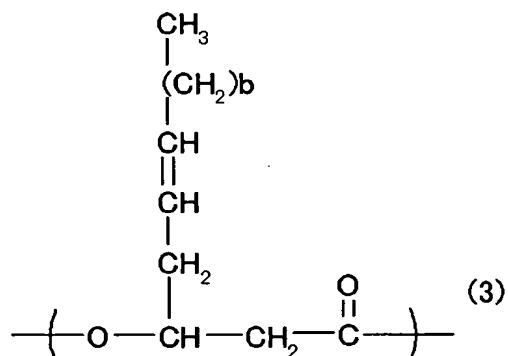


(wherein R1 represents a substituent to a cyclohexyl group, where R1 is one selected from the group consisting of a H atom, a CN group, a NO₂ group, a
 5 halogen atom, a CH₃ group, a C₂H₅ group, a C₃H₇ group, a CF₃ group, a C₂F₅ group, and a C₃F₇ group; and if there are two or more monomer units, R1 may be different from every monomer unit).

10 11. The binder resin according to claim 10, wherein the polyhydroxyalkanoate comprises at least one selected from the group consisting of a monomer unit represented by the following general formula (2) and a monomer unit represented by the following
 15 general formula (3) in a polymer molecule thereof:



(wherein a represents an integral number of 0 to 9, and if there are two or more monomer units, a may be different from every monomer unit)



(wherein b represents either 3 or 5, and if there are two or more monomer units, b may be different from every monomer unit).

5

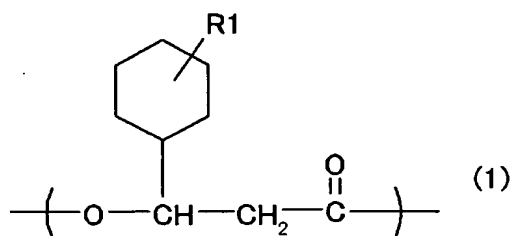
12. The binder resin according to claim 10, further comprising at least one of a polycaprolactone and a polylactic acid.

10 13. The binder resin according to claim 10, the binder resin having a number average molecular weight of 2,000 or more and 300,000 or less.

15 14. The binder resin according to claim 10, the binder resin having a glass transition temperature of 30 to 80°C and a softening point of 60 to 170°C.

20 15. The binder resin according to claim 10, wherein the resin bulk material is an electrostatic charge image-developing toner.

16. In an electrostatic charge image-developing toner, the improvement which comprises a binder resin represented by the following general formula (1):



5 (wherein R1 represents a substituent to a cyclohexyl group, where R1 is one selected from the group consisting of a H atom, a CN group, a NO₂ group, a halogen atom, a CH₃ group, a C₂H₅ group, a C₃H₇ group, a CF₃ group, a C₂F₅ group, and a C₃F₇ group; and if
10 there are two or more monomer units, R1 may be different from every monomer unit).

17. An image-forming method comprising the steps of:

15 charging an electrostatic latent image bearing member by externally applying a voltage to a charging member;

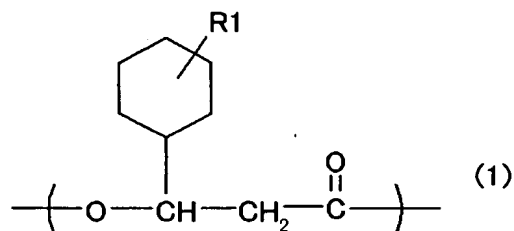
forming an electrostatic charge image on the charged electrostatic latent image bearing member;

20 developing the electrostatic charge image with an electrostatic charge image-developing toner to form a toner image on the electrostatic latent image bearing member, the electrostatic charge image-

developing toner containing a binder resin
represented by the following general formula (1);

transferring the toner image on the
electrostatic latent image bearing member to a
5 recording medium; and

thermally fixing the toner image on the
recording medium:



(wherein R1 represents a substituent to a cyclohexyl
10 group, where R1 is one selected from the group
consisting of a H atom, a CN group, a NO₂ group, a
halogen atom, a CH₃ group, a C₂H₅ group, a C₃H₇ group,
a CF₃ group, a C₂F₅ group, and a C₃F₇ group; and if
there are two or more monomer units, R1 may be
15 different from every monomer unit).

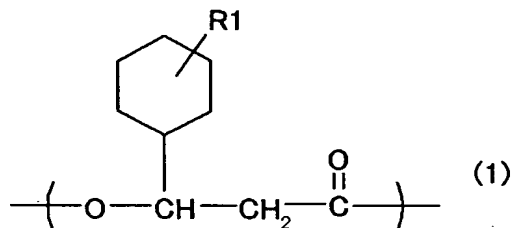
18. An image-forming apparatus comprising:
20 means for charging an electrostatic latent
image bearing member by externally applying a voltage
to a charging member;
means for forming an electrostatic charge image

on the charged electrostatic latent image bearing member;

means for developing the electrostatic charge image with an electrostatic charge image-developing toner to form a toner image on the electrostatic latent image bearing member, the electrostatic charge image-developing toner containing a binder resin represented by the following general formula (1);

means for transferring the toner image on the electrostatic latent image bearing member to a recording medium; and

means for thermally fixing the toner image on the recording medium:



(wherein R1 represents a substituent to a cyclohexyl group, where R1 is one selected from the group consisting of a H atom, a CN group, a NO₂ group, a halogen atom, a CH₃ group, a C₂H₅ group, a C₃H₇ group, a CF₃ group, a C₂F₅ group, and a C₃F₇ group; and if there are two or more monomer units, R1 may be different from every monomer unit).